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COMMITTEE OF EXPERTS ON THE TRANSPORT OF DANGEROUS GOODS

Sub-Committee of Experts on the Transport of Dangerous Goods
(Fourteenth session,
Geneva, 8-18 December 1997,
agenda item 4 (b))

GLOBAL HARMONIZATION OF SYSTEMS OF CLASSIFICATION AND LABELLING OF CHEMICALS

Physical hazards

Test for Explosive Decomposition of Reactive Substances due to Contamination

Transmitted by the Observer from New Zealand

Introduction

At the thirteenth session of the Sub-Committee New Zealand present an informal paper INF.3. This paper outlined a number of concerns relating to the classification of Flammable and Reactive Substances in the proposed Globally Harmonised System. During the Working Group meeting, New Zealand was invited to present formal papers to the fourteenth session of the Sub-Committee.

New Zealand is currently developing Regulations for the Hazardous Substances and New Organisms (HSNO) Act. This Act implements the concepts and philosophy of the Globally Harmonised Chemical Classification System to New Zealand's Domestic Legislation. While developing these Regulations, we discovered some serious problems in applying the current UN transport classification criteria to the controls needed for worker, consumer and environmental safety. The difficulty arises from the UN classification's use of packaging to modify the risk.

Proposal

That the Working Group request the Committee of Experts to develop criteria and a suitable test procedure to access the risk of Explosive Decomposition of reactive substances in Classes 4 and 5 due to the reaction with contaminants. I is suggested that two or three indicator test substances could be utilised to evaluate this potential. These test and criteria would be or significant benefit in the Globally Harmonised Chemical Classification system

Presently there is a test for thermal decomposition [the SADT test], that tests for a potential hazard in transport. Once a substance is ex-transport (i.e. in storage or ready to be used) there is also a potential hazard from contamination.

We consider there is a need to establish a test to determine propensity to degrade by explosive decomposition upon contamination. This would be:

- similar to tests described in the paper on the proposal to reclassify vinyltrichlorosilane [ST/SG/AC.10/C.3/1997/3 refers];
- only required to identify potential hazards in storage and use from non-transport parts of the life cycle.

Explosive decomposition should be added to the classification criteria for the Globally harmonised Chemical Classification System. This criteria should not apply to transport. We are proposing a Box 2 type of classification as outlined in ST/SG/AC.10/C.3/68.

Justification

The potential for Explosive Decomposition as a result of thermal instability is currently addressed in the Transport Recommendations. During Transport the reactive substance is packaged or protected from external contamination by a tank or similar outer shell. During storage and subsequent use this may not always be the case. Thus Thermal decomposition due to contamination is an appropriate safety concern in other parts of the substances lifecycle. Adoption of this new criteria is of particular relevance to worker and public safety. We again stress that this criteria does not apply to transport.

Recommendation

That the working group adopt the proposed additional hazard level.